

Claims

1. An apparatus for measuring emissions comprising:
means for obtaining a sample flow, the sample flow being a controlled proportion of the total emissions to be measured;
- 5 means for accumulating said sample flow in a tamper-proof housing, said housing containing one or more known chemical reagents with which the accumulated samples react to provide a measure of one or more selected components within said sample.
- 10 2. The apparatus of claim 1, wherein:
said tamper-proof housing contains a plurality of separate containers each containing a respective chemical reagent.
- 15 3. The apparatus of claim 1 or 2, further comprising:
a cleaning chemical or cleaning arrangement to remove components which might otherwise interfere with the accumulation of the component to be measured.
- 20 4. The apparatus of any preceding claim, further comprising:
means for detecting the location of the apparatus and switching the sampling system on or off depending upon location.
5. The apparatus of any preceding claim, further comprising:
an automatic time determining system which is set to switch the device on and off at selected times.
- 25 6. The apparatus of claim 2, or any claim dependent thereon further comprising:
switching means to direct the sample to one or other of said containers according to geographical location and/or time of year.
7. The apparatus of any preceding claim, wherein
30 said means for obtaining the sample flow is adapted to take extracts from the exhaust ducts of several engines and then to mix them, in proportion to the flow from each exhaust duct, and then pass the combined sample to the means for accumulating.

8. The apparatus of any preceding claim, further comprising:
display means for providing a visual indication of said measure.
9. The apparatus of any preceding claim wherein
said tamper-proof housing is a tamper-proof removable canister.
10. The apparatus of claim 10, wherein:
said canister is locked inside a tamper-proof cabinet.
- 10 11. The apparatus of claim 10 wherein said tamper-proof cabinet is adapted to be
unlocked by a signal from a wireless communication means.
12. The apparatus of claim 11 wherein said tamper-proof cabinet is adapted to be
unlocked by a signal from a mobile telephone.
- 15 13. The apparatus of any preceding claim, wherein
the apparatus is provided with its own power supply.
14. The apparatus of claim 13 wherein said power supply is a battery.
- 20 15. An apparatus for measuring emissions comprising:
means for accumulating emission samples in a secure manner, said means comprising
a tamper-proof container having an inlet port adapted to receive emissions containing
components to be measured,
25 wherein the inlet port is adapted to be sealed when said container is disconnected
from receiving emissions; and
said container further comprising means for containing chemical reagents to provide
an indication of the measure of one or more selected components in said emissions.
- 30 16. The apparatus of claim 15 wherein
said container is preferably adapted to be connected to an external device and to
communicate with said external device to provide information about the emission measures.

17. The apparatus of claim 16 wherein said container communicates with said external device by mobile telephone communication.

18. The apparatus of claim 17 where said communication is encrypted.

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19. The apparatus of any of claims 15 to 18 wherein:

10 said container is adapted to be incorporated into a system comprising means for accumulating sample flow in said tamper-proof container, and further adapted to be connected to means for obtaining said sample flow, the sample flow being a controlled proportion of the total emissions to be measured.

20. The apparatus of claim 19 wherein

15 an interface between the container and the means for obtaining the sample is sealed and secure.

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21. The apparatus of claim 16 wherein

an interface between the container and said external device is sealed and secure.

22. A system for secure measurement and recordal of emissions comprising:

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means for taking a representative sample of the emissions;

secure, tamper-proof means for accumulating said samples and for storing chemical reagents which react with said samples and provide an indication of the quantity of selected components contained in the sample;

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the secure, tamper-proof means being removable under authorised conditions only

and transportable and adapted to be connected to an external device under authorised

conditions only.

23. The system of claim 22 wherein

30 the removable device is provided with encrypted identification means.

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24. A tamper-proof container with means for locking the container, and means for unlocking the container by means of a signal from a mobile telephone.